

IN THE CLAIMS:

Please amend claims 6 and 7 as follows. A detailed listing of all claims is as follows.

Claim 1 (Previously Presented): A pickup device of an apparatus for recording or reproducing information, by irradiation of a light beam, to and from a multi-layered recording medium having a plurality of recording layers laminated through spacer layers, the device comprising:

an illumination optical system including an objective lens for focusing a light beam onto any of said recording layers of said multi-layered recording medium; and

a detecting optical system including a photodetector for receiving and photoelectrically converting reflection light from said recording layer of said multi-layered recording medium through said objective lens; wherein said photodetector has a normalized detector size (B/β^2) of a size of $10\ \mu\text{m}^2$ to $50\ \mu\text{m}^2$, and

wherein the normalized detector size (B/β^2) is given by an equation of

$$B/\beta^2 = L^2 / (f_c/f_{OB})^2$$

wherein L denotes a size of one side of the photodetector, f_c denotes a focal distance of the detecting optical system and f_{OB} denotes a focal distance of the objective lens,

wherein said objective lens has a numerical aperture of 0.85 or greater.

Claims 2-5 (Cancelled).

Claim 6 (Currently Amended): A pickup device of an apparatus for recording or reproducing information, by irradiation of a light beam, to and from a multi-layered recording medium having a plurality of recording layers laminated through spacer layers, the device comprising:

an illumination optical system including an objective lens for focusing a light beam onto any of said recording layers of said multi-layered recording medium; and

a detecting optical system including a photodetector for receiving and photoelectrically converting reflection light from said recording layer of said multi-layered recording medium through said objective lens; wherein said photodetector has a normalized detector size (B/β^2) of a size of $10\ \mu\text{m}^2$ to $50\ \mu\text{m}^2$, and

wherein the normalized detector size (B/β^2) is given by an equation of

$$B/\beta^2 = L^2 / (f_c/f_{OB})^2$$

wherein L denotes a size of one side of the photodetector, f_c denotes a focal distance of the detecting optical system and f_{OB} denotes a focal distance of the objective lens,

wherein said objective lens has a numerical aperture of 0.85 or greater, and A pickup device according to claim 1, wherein said size L of the photodetector is given by an equation, $x = S/L$ where x is substantially equal to 0.5 and S denotes a light spot size formed on said photodetector.

Claim 7 (Currently Amended): A pickup device according to claim 1, further comprising a detecting circuit connected to said photodetector, ~~when the photodetector has a normalized~~

~~detector size of 50 μm^2 or lower~~ wherein said detecting circuit outputs signals with 3% or lower of a reproduced signal distortion.